REMARKS

Claims 1, 3-9 and 11-19 are now pending in the application. Claim 2 is cancelled herein. Claims 1, 3, 4 and 16 are currently amended. Support for these amendments may be found on page 22, lines 15-22 of the specifications. Claims 12-15 and 19 have been withdrawn. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

INTERVIEW SUMMARY

Applicant thanks the Examiner for the telephonic interview of January 3, 2005. Therein, participants, including Examiner J.B. Strege and Applicant's Attorney of Record Jennifer S. Brooks, discussed the amendments to the claims contained herein. In particular, the Examiner agreed that the amendments herein successfully overcome the outstanding rejections.

CLAIM OBJECTIONS

Claims 12-16 and 19 stand objected to for minor informalities. Applicant has amended the claims by taking out the Claim 16 with the original status identifier, and labeling Claims 12-15 and 19 as withdrawn, which were typographical errors. Therefore, reconsideration and withdrawal of this objection are respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-4, 6 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kado et al. (U.S. Pat. No. 5,995,639) in view of Poggio et al. (U.S. Pat. No. 5,642,431) and Applicant's Alleged Admitted Prior Art (AAAPA). Claims 7-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kado et al. in view of Poggio et al, AAAPA, and Chen et al. (U.S. Pat. No. 6,792,134). Claims 11, 5 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kado et al. in view of Poggio et al, AAAPA, and Odaka et al. (U.S. Pat. No. 6,035,054). Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kado et al. in view of Poggio et al., AAAPA, and Eriksson *Eye-tracking for Detection of Driver Fatigue* (as cited in the IDS). These rejections are respectfully traversed.

Kado is generally directed toward an apparatus for identifying a person. In particular, the Examiner relies on Kado to teach detecting eye area from a face image (col. 1, lines 59-67), using brightness correction to intensify edges (element 19, col. 7, lines 22-52) and extract brightness gradient vectors (col. 4, lines 45-59), and matching a brightness gradient image to an eye template (col. 5, lines 40-47) to detect eye position (col. 5, lines 47-57, col. 6, lines 4-10), wherein brightness is corrected after feature extraction based on a selected edge (col. 4, lines 43-59, col. 7, lines 23-30), and extracted features are split into different partial areas (col. 7, lines 26-52). The Examiner admits that Kado does not teach brightness correction before matching of the brightness gradient vector and the eye template. The Examiner further admits that Kado does not teach using near infrared light to capture the image. Moreover, Kado does not teach, suggest, or motivate that a

brightness correction step includes the steps of: calculating a brightness gradient for each pixel in a part of the face image for brightness correction; generating an expression for conversion for histogram equalization using pixels in the part having a brightness gradient intensity falling within the top predetermined rate; and performing histogram equalization for all pixels in the part using the generated expression for conversion.

Poggio is generally directed toward a network-based system and method for detection of faces and the like. In particular, the Examiner relies on Poggio to teach a preprocessor (140 of figure 2) that normalizes and filters input images (col. 2, lines 13-15) and contains a brightness correction section, thus correcting the illumination gradient (step 404 of figure 4) and making the detection more robust to variations in illumination. Thus, the Examiner relies on Poggio to teach brightness correction of the facial image as a whole before a face is detected in the image. Yet, the Examiner admits that Poggio does not teach using near infrared light to capture the image. Moreover, Poggio does not teach, suggest, or motivate that a brightness correction step includes the steps of: calculating a brightness gradient for each pixel in a part of the face image for brightness correction; generating an expression for conversion for histogram equalization using pixels in the part having a brightness gradient intensity falling within the top predetermined rate; and performing histogram equalization for all pixels in the part using the generated expression for conversion.

Applicant's Alleged Admitted Prior Art (AAAPA) is located at page 3, lines 9-15 of the originally filed Specification, which states:

> In iris recognition systems using the techniques described above, the illumination used is preferably near infrared light rather than visible light. The reason is that, in near infrared illumination, the subject of a photograph, who does not recognize the near infrared light, is prevented from being dazzled with the light and thus less feels a psychological repulsion against being photographed.

The Examiner relies on the above admission to teach that use of infrared light to capture the image of the eye is well known in the prior art. However, AAAPA does not teach, suggest, or motivate that a brightness correction step includes the steps of: calculating a brightness gradient for each pixel in a part of the face image for brightness correction; generating an expression for conversion for histogram equalization using pixels in the part having a brightness gradient intensity falling within the top predetermined rate; and performing histogram equalization for all pixels in the part using the generated expression for conversion.

Chen is generally directed toward a multi-mode digital image processing method for detecting eyes. In particular, the Examiner relies on Chen to teach splitting a face image into left and right half-regions (elements 908 and 910, col. 8, lines 35-43), with brightness correction being carried out in the form of histogram equalization during eye position detection. However, Chen does not teach, suggest, or motivate that a brightness correction step includes the steps of: calculating a brightness gradient for each pixel in a part of the face image for brightness correction; generating an expression for conversion for histogram equalization using pixels in the part having a brightness gradient intensity falling within the top predetermined rate; and performing histogram equalization for all pixels in the part using the generated expression for conversion.

Odaka is generally directed toward a visual axis detection apparatus and optical apparatus. In particular, the Examiner relies on Odaka to teach that edges have low brightness (col. 20 lines 36-56 of Odaka), so that formation of edge vectors per Kado (col. 5, lines 5-57 of Kado) accomplishes exclusion of points on the face having a brightness value greater than a predetermined value from a correlation calculation.

Eriksson is generally directed toward eye-tracking for detection of driver fatigue. In particular, the Examiner relies on Eriksson to teach that the eye template's multiple points are arranged in n concentric circles, with n greater than or equal to two. Specifically, the Examiner remarks that Eriksson teaches a template for estimating iris position having two centric circles (elements 1a and 2a of Figure 3), with a good match being determined when the inner circle is centered on the iris and the outer circle covers the schlera. However, Eriksson does not teach, suggest, or motivate that a brightness correction step includes the steps of: calculating a brightness gradient for each pixel in a part of the face image for brightness correction; generating an expression for conversion for histogram equalization using pixels in the part having a brightness gradient intensity falling within the top predetermined rate; and performing histogram equalization for all pixels in the part using the generated expression for conversion.

Independent Claims 1 and 16 as amended, recite "wherein the brightness correction *step includes* (Claim 1) *means performs* (Claim 16) the steps of: calculating a brightness gradient for each pixel in a part of the face image for brightness correction; generating an expression for conversion for histogram equalization using pixels in the part having a brightness gradient intensity falling within the top predetermined rate; and performing

histogram equalization for all pixels in the part using the generated expression for conversion." As noted above, the cited references fail to disclose or suggest such limitations.

Accordingly, Applicant respectfully requests the Examiner reconsider and withdraw the rejection of claims 1 and 16 under 35 U.S.C. § 103(a), along with rejection on these grounds of all claims dependent therefrom.

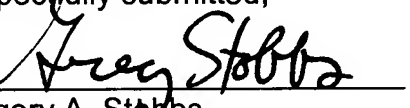
CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-0750, under Order No. 5077-000079/US from which the undersigned is authorized to draw.

Dated: February 3, 2006

Respectfully submitted,

By 

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